



**Commodities International
Shipping and Survey**



**FOSFA
INTERNATIONAL**

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CISS GROUP UKRAINE LLC
member of **CISS GROUP Pte.Ltd. (Singapore)**
5, Odessa Blv., Ovidiopol district,
Lymanka village, Odessa region, 65037
inspection@ciiss-group.com

CERTIFICATE No.: SGD01229

ORIGINAL

ANALYSIS CERTIFICATE

In pursuance of an order received from our principal, requesting us to carry out inspection we hereby confirm as follows:

Description of goods:	CRUDE SUNFLOWER SEED OIL UKRAINE ORIGIN, IN BULK FOR FOOD USE AFTER APPROPRIATE REFINING
Vessel:	M/T AGARTHA
Quantity:	4050,000 MT
B/L No. & Date:	NO. 1 DD 20.01.2024
Shipper:	SUNOLTA (SUISSE) SA RUE DU 23-JUIN 26, 2800 DELEMONT, SWITZERLAND
Consignee:	TO THE ORDER
Notify address:	CASA OLEARIA ITALIANA S.P.A VIA BAIONE 200 70043 MONOPOLI (BARI)
Port of loading:	ODESA, UKRAINE
Port of discharge:	MONOPOLI, ITALY
Vessel Tanks Nos.:	1-P, 2-P, 3-P, 4-P, 5-P, 1-S, 2-S, 3-S, 4-S, 5-S.

RESULTS OF QUALITY INSPECTION

Representative samples of the oil have been drawn from each ship's tank 1-P, 2-P, 3-P, 4-P, 5-P, 1-S, 2-S, 3-S, 4-S, 5-S of MT AGARTHA and sealed from vessel's tanks after completion of loading according to FOSFA CONTRACT No.54. One vessel's sample were submitted for analysis to FOSFA approved chemical laboratory. The following results of analysis have been obtained:

Parameter	Method	Result	LOQ
Total aflatoxins (B1, B2, G1, G2), ppb (µg/kg)	ISO 16050 (HPLC method)	< 1*	1 ppb
Phosphorus	ISO 10540-1	183.61 ppm	-

Parameter	Method	Result
Benz(a)anthracene, µg/kg (ppb)	ISO 15753	1.7
Chrysene, µg/kg (ppb)	ISO 15753	2.0
Benzo(b)fluoranthene, µg/kg (ppb)	ISO 15753	1.5
Benzo(a)pyrene, µg/kg (ppb)	ISO 15753	1.3
Total polycyclic aromatic hydrocarbons content (Sum of Benz(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(a)pyrene), µg/kg (ppb)	ISO 15753	6.5





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Parameter	Method	Result	LOQ
Arsenic (As), ppm	AGM-17 (ICP-OES)	< 0.05*	0.05 ppm
Cadmium (Cd), ppm	AGM-17 (ICP-OES)	< 0.01*	0.01 ppm
Copper (Cu), ppm	AGM-17 (ICP-OES)	< 0.05*	0.05 ppm
Iron (Fe), ppm	AGM-17 (ICP-OES)	0.195	0.05 ppm
Mercury (Hg), ppm	AGM-17 (ICP-OES)	< 0.01*	0.01 ppm
Lead (Pb), ppm	AGM-17 (ICP-OES)	< 0.05*	0.05 ppm

Parameter	Method	Result	LOQ
Hydrocarbon content attributed to mineral origin (C10-C56), ppm (mg/kg)	ISO 17780	< 50*	50 ppm (mg/kg)
Mineral oil (C10-C24), ppm (mg/kg)	ISO 17780	< 50*	50 ppm (mg/kg)

Parameter	Method	Result	LOQ
Total sterols content, mg/kg (ppm)	ISO 12228-1	3198	0.05 ppm
Cholesterol, %	ISO 12228-1	0.1	0.05 %
Cholestanol, %	ISO 12228-1	< 0.05*	0.05 %
Brassicasterol, %	ISO 12228-1	< 0.05*	0.05 %
24-Methylene cholesterol, %	ISO 12228-1	< 0.05*	0.05 %
Campesterol, %	ISO 12228-1	9.1	0.05 %
Campestanol, %	ISO 12228-1	< 0.05*	0.05 %
Stigmasterol, %	ISO 12228-1	9.0	0.05 %
Δ^7 -Campesterol, %	ISO 12228-1	4.2	0.05 %
$\Delta^5,23$ -Stigmastadienol, %	ISO 12228-1	< 0.05*	0.05 %
Clerosterol, %	ISO 12228-1	< 0.05*	0.05 %
β -Sitosterol, %	ISO 12228-1	55.6	0.05 %
Sitostanol, %	ISO 12228-1	< 0.05*	0.05 %
Δ^5 -Avenasterol, %	ISO 12228-1	2.9	0.05 %
$\Delta^5,24$ -Stigmastadienol, %	ISO 12228-1	< 0.05*	0.05 %
Δ^7 -Stigmastenol, %	ISO 12228-1	13.8	0.05 %
Δ^7 -Avenasterol, %	ISO 12228-1	5.3	0.05 %



This certificate is issued to any job or services carried out within the GENERAL TERMS AND CONDITION OF BUSINESS printed overleaf. This certificate is not intended to relieve the parties of any relevant sales contract from their contractual obligations. The Company's responsibility under this Certificate is limited to proven negligence and will in no case be more than ten times the amount of the fees.



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Parameter	Method	Result	LOQ
Capric acid C10:0, %	ISO 12966-4	< 0.05*	0.05 %
Lauric acid C12:0, %	ISO 12966-4	< 0.05*	0.05 %
Myristic acid, C14:0, %	ISO 12966-4	0.1	0.05 %
Myristoleic acid, C14:1, %	ISO 12966-4	< 0.05*	0.05 %
Pentadecanoic acid C15:0, %	ISO 12966-4	< 0.05*	0.05 %
Palmitic acid C16:0, %	ISO 12966-4	6.3	0.05 %
Palmitoleic acid C16:1, %	ISO 12966-4	0.1	0.05 %
Heptadecanoic acid C17:0, %	ISO 12966-4	< 0.05*	0.05 %
cis-10-Heptadecenoic acid C17:1, %	ISO 12966-4	< 0.05*	0.05 %
Stearic acid C18:0, %	ISO 12966-4	3.2	0.05 %
Oleic acid C18:1n9c, %	ISO 12966-4	28.8	0.05 %
Linoleic acid C18:2n6c, %	ISO 12966-4	60.5	0.05 %
α-Linolenic acid (omega3) C18:3n3, %	ISO 12966-4	0.1	0.05 %
Arachidic acid C20:0, %	ISO 12966-4	0.2	0.05 %
cis-11-Eicosenoic acid C20:1, %	ISO 12966-4	0.1	0.05 %
cis-11,14-Eicosadienoic acid C20:2, %	ISO 12966-4	< 0.05*	0.05 %
Heneicosanoic acid C21:0, %	ISO 12966-4	< 0.05*	0.05 %
Behenic acid C22:0, %	ISO 12966-4	0.5	0.05 %
Erucic acid C22:1n9, %	ISO 12966-4	< 0.05*	0.05 %
cis-13,16-Docosadienoic acid C22:2, %	ISO 12966-4	< 0.05*	0.05 %
Lignoceric acid C24:0, %	ISO 12966-4	0.1	0.05 %
Nervonic acid C24:1, %	ISO 12966-4	< 0.05*	0.05 %

Test Description	Method**	Units***	Results
Sum of dioxins (WHO-PCDD/Fs-TEQ)	EN 16215:2020	pg/g fat	<0,75
Sum of dioxins and dioxin-like PCBs (WHO-PCDD/Fs-PCB-TEQ)	EN 16215:2020	pg/g fat	<1,25
Sum of PCBs non-dioxin-like	EN 16215:2020	ng/g fat	<40
2,3,7,8-TCDD	EN 16215:2020	pg/g fat	<0,04
1,2,3,7,8-PeCDD	EN 16215:2020	pg/g fat	<0,04
1,2,3,4,7,8-HxCDD	EN 16215:2020	pg/g fat	<0,01
1,2,3,6,7,8-HxCDD	EN 16215:2020	pg/g fat	<0,01
1,2,3,7,8,9-HxCDD	EN 16215:2020	pg/g fat	<0,01
1,2,3,4,6,7,8-HpCDD	EN 16215:2020	pg/g fat	<0,001
OCDD	EN 16215:2020	pg/g fat	0,00006
2,3,7,8-TCDF	EN 16215:2020	pg/g fat	0,004
1,2,3,7,8-PeCDF	EN 16215:2020	pg/g fat	<0,001
2,3,4,7,8-PeCDF	EN 16215:2020	pg/g fat	<0,012
1,2,3,4,7,8-HxCDF	EN 16215:2020	pg/g fat	<0,01
1,2,3,6,7,8-HxCDF	EN 16215:2020	pg/g fat	<0,01
2,3,4,6,7,8-HxCDF	EN 16215:2020	pg/g fat	<0,01
1,2,3,7,8,9-HxCDF	EN 16215:2020	pg/g fat	<0,01



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1,2,3,4,6,7,8-HpCDF	EN 16215:2020	pg/g fat	<0,001
1,2,3,4,7,8,9-HpCDF	EN 16215:2020	pg/g fat	<0,001
OCDF	EN 16215:2020	pg/g fat	<0,00006
dioxin-like PCB 77	EN 16215:2020	pg/g fat	0.0001
dioxin-like PCB 81	EN 16215:2020	pg/g fat	<0,00015
dioxin-like PCB 126	EN 16215:2020	pg/g fat	<0,05
dioxin-like PCB 169	EN 16215:2020	pg/g fat	<0,015
dioxin-like PCB 105	EN 16215:2020	pg/g fat	<0,0003
dioxin-like PCB 114	EN 16215:2020	pg/g fat	<0,0003
dioxin-like PCB 118	EN 16215:2020	pg/g fat	0.0003
dioxin-like PCB 123	EN 16215:2020	pg/g fat	<0,0003
dioxin-like PCB 156	EN 16215:2020	pg/g fat	<0,0003
dioxin-like PCB 157	EN 16215:2020	pg/g fat	<0,0003
dioxin-like PCB 167	EN 16215:2020	pg/g fat	<0,0003
dioxin-like PCB 189	EN 16215:2020	pg/g fat	<0,0003
non-dioxin-like PCB 28	EN 16215:2020	ng/g fat	0.146
non-dioxin-like PCB 52	EN 16215:2020	ng/g fat	<0,100
non-dioxin-like PCB 101	EN 16215:2020	ng/g fat	<0,100
non-dioxin-like PCB 138	EN 16215:2020	ng/g fat	<0,100
non-dioxin-like PCB 153	EN 16215:2020	ng/g fat	<0,100
non-dioxin-like PCB 180	EN 16215:2020	ng/g fat	<0,100
TEQ (WHO) for PCDD/Fs including LOQ for non-quantified congener	EN 16215:2020	pg/g fat	0,170
TEQ (WHO) for dioxin-like PCBs including LOQ for non-quantified congener	EN 16215:2020	pg/g fat	0,068
TEQ (WHO) for PCDD/Fs + dioxin-like PCBs including LOQ for non-quantified congener	EN 16215:2020	pg/g fat	0,238
Non-dioxin-like PCBs	EN 16215:2020	ng/g fat	0,646

*-No analyte at a content above the limit of Quantification was detected.

LOQ (Limit of quantification) - is the lowest amount or concentration of analyte in a sample, which can be reliably quantified with an acceptable level of precision and accuracy.

**In accordance with Directive (EU) nr. 2017/644 (for Food).

***Content of PCDD/Fs and dioxin-like PCBs is recalculated to Toxic Equivalents (TEQ) values excluding non-dioxin-like PCBs.

This certificate is electronically signed and stamped.

DATED: 24th of JANUARY, 2024

**For and on behalf of CISS GROUP Ukraine LLC
Registered Superintendent and Surveyor Member of FOSFA**

